Volunteer Firemen

Professional Journal of the Volunteer Firemen's Section

Few types of fires spread faster than one in a large dairy barn filled with hay. Fast work by all hands is necessary if any of the contents are to be salvaged.

If the Barn Burns

Lots of Water Is Needed — Also in this issue — Modern Pumpers with Cabs — Making Use of a Divided Hose Body

Volume 5, Number 8 BOSTON, MASSACHUSETTS August 1938

National Fire Protection Association

INTERNATIONAL

HORATIO BOND Managing Editor

TO THE volunteer fire fighter, it must be admitted, fire fighting is something like a sport. The volunteer fire department is like an athletic club in which strong young men are organized for the purpose of fighting fire and keeping their neighbors' homes from burning. Like an athletic club, the fire department holds many pleasant and happy associations for its members and holds them together in a unity of purpose which is productive of the real teamwork needed both on athletic field and the fire ground.

Any man who has had anything to do with an athletic association knows of the constant practice and enthusiasm that is needed to produce winning results. The ones who put the most into the game are the persons that go ahead and around whom the teamwork centers. Fellows who do not put their all into the game are not wanted very long in an organization which intends to win its games. The very least that is demanded if a fellow is not a star player is that he put his all into the game and appreciate the value of teamwork.

Almost any athlete is sold on the value of training. Day after day is devoted to constant practice to prepare for a contest which may require but a few moments of time to carry out. To the real volunteer fireman, fire fighting is his game and like the athlete he tries to be prepared.

Unlike most athletic contests, a fire does not book its opponents in advance. The publicity a fire obtains in the newspapers and over the radio inevitably must come after the event. For this reason the volunteer fireman never knows when the bell hits or whistle blows what his team line-up is going to be. Each man must always be ready and must be able to play every position in the fire fighting game.

On the fire grounds every true fire fighter wants to be at the pipe. To him it is like the privilege of carrying the ball. Lives and property depend upon whether he can fight his way through places where other men rightly fear to go. Success or failure may depend upon advancing the line a yard or two further through the merciless opposition of heat and smoke than the other fellow can go.

Of course everyone can't be captain or be the man at the pipe, but there are other jobs at a fire which also call for grit and good teamwork. Somebody must fight his way inside with axes and plaster hooks to open up ceilings and partitions for the pipemen. Someone must get through the building to ventilate and to spread salvage covers. Of course the building must always be searched for possible occupants. Each part of the job must be done well.

Like other athletes and sportsmen, firemen must drill steadily to keep on their toes. Drill schools and training programs give the best procedures to follow but without regular drill work it is awful easy to forget what was learned a year or two ago. Any man who does not keep up on his game is going to get rusty and will make a fool out of himself and his entire crew.

Fire department drills should be conducted like the practice session of any sports team. The whole company must put their heads and hearts and beef into it. The game must be played accurately and against time. Different squads should compete with each other in the various evolutions. The company should be able to put over any hose, pumper or ladder evolution that they may use without a hitch. Plenty of practice is also needed at ventilation, salvage work and many other interesting problems.

LAST month 5 departments with 103 men joined the Volunteer Firemen's Section for the first time. In addition 24 fire departments with 510 men renewed membership. The total membership for the Section is now 581 departments and 13,016 firemen. If your department does not have regular business meetings during the Summer don't let your membership renewals lapse as you will want to see the interesting features planned for VOLUNTEER FIREMEN and other N.F.P.A. publications this summer. The following departments are newly enrolled:

Palm Springs Volunteer Fire Department, Palm Springs, California.

Sebring Fire Department, Sebring, Florida.

Ville Platte Volunteer Fire Department, Ville Platte, Louisiana.

Littleton Fire Department, Littleton, New Hampshire.

Canfield Volunteer Fire Department, Canfield, Ohio.

Volunteer Firemen

Volume 5 Number 8

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Franklin H. Wentworth Managing Director
Percy Bugbee Assistant Managing Director
Robert S. Moulton Technical Secretary
DeWayne E. Nolting Fire Record Department

Please notify us promptly of any change of address

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-THE VOLUNTEER FIREMAN

Warren Y. Kimball Associate Editor

If the Barn Burns

Although Volunteers Are Old Hands at Making a Little Go a Long Way — Lots of Water Is Needed on a Burning Barn

TO A city dweller, a barn may not seem like an especially important building—certainly not as important as a city worker's factory. But to the farmer, a barn is mighty important. He just can't afford to be without shelter for his farm animals, hay and farm equipment. Therefore, farm barns form one of the most important classes of property under the protection of rural volunteer fire departments.

Unfortunately, due to the particularly combustible construction and contents and inadequate water supplies, barns have been subject to frequent destruction by fire. In one year there are approximately 21,600 barn fires in the United States and Canada. The loss from these fires has been estimated at over $23,000,000 a year.

There are a number of factors which determine the fire department's chances of saving a burning barn. In addition to the amount of water and fire fighting force available these factors include the type of construction, contents of the structure, and the origin of the fire.

Any person who has seen a barn filled with hay burning after being struck by lightning will usually agree that the chances are small of making an effective stop in such a case, at least as far as the barn itself is concerned. Following ignition of a hay barn by lightning, a great cloud of smoke rises above the structure. The heated hay is ready to burn as soon as it gets air. Usually by the time the fire department arrives, the rapidly spreading fire has vented itself so that the entire building and contents present one solid, roaring mass of flame. If livestock or other contents are to be saved, the work must be done in the first few moments by the persons discovering the fire.

IN THE case of a barn fire started by spontaneous ignition of the hay (the cause of many such fires), there is often a much better chance of effective fire fighting. Such fires may be located in their incipient stages by the presence of hot spots or odors. If heating is suspected it can usually be detected by lowering a thermometer down inside of a pipe driven into the hay. Hay ignites at about 340° F.

Suspected heating or spontaneous ignition should be considered as an actual fire. When such a condition is discovered it is a fire department job and no time should be lost in calling out the department in full force. Every effort should be made to get adequate streams ready for operation before any fire has broken out on the surface of the hay.

This barn was struck by lightning. Many heavy streams would have been required to extinguish such a fire in time to prevent a total loss.

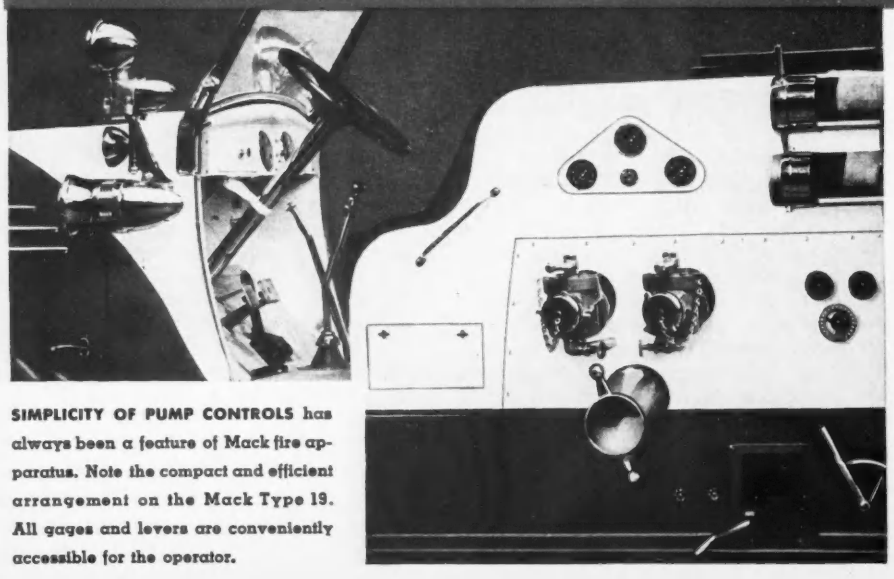
Heated hay should not be removed and air should be excluded until fire streams are in readiness because experience has shown that fire may flash over the entire surface of the hay before water can be applied, once the hay is exposed to a good supply of air. As it is not uncommon for a barn to contain 50 to 100 tons of hay, thousands of gallons of water are needed to extinguish such a fire once it is under way.

Although a serious barn fire may compare in intensity with the average three alarm fire in almost any city, it is seldom that there is a fire hydrant located anywhere near a barn. Volunteer fire departments must know in advance the type and amount of water supplies available at farms in their territory. If enough water is available from cisterns, streams or other sources, two or more deluge streams should be set up when heating is discovered in a barn. This is a precaution against fire flashing over the surface of the hay. If there is a large barn door at each end of the structure a heavy stream could be placed so as to play through the doorway at each end of the building. Ordinary hand hose streams are of value if applied on the seat of the fire but make little impression on a hay barn fire that has gained headway. If deluge sets are not available, hose sticks can be used to control streams under heavy pressure.

Even where large amounts of water are not available, every farm has some source of domestic water supply although in many cases the supply is too meager to be of value in any but the most incipient fires. However, the average volunteer fire department is an old hand at making a little water go a long way. There are many cases on record where determined volunteers have made remarkable stops with small streams such as booster equipment, or 1½-inch hose supplied from a well or other limited private water supply. Usually they are at least able to save most of the exposed property such as farm dwellings and various outbuildings. In some sections of the country barns are often directly attached to dwellings and this makes the fire fighting job tougher.

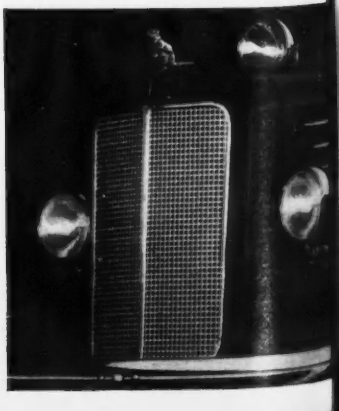
The minimum protection recommended for farms by the N.F.P.A. Farm Fire Committee is a pumping capacity of 500 gallons an hour with a two hour supply. This amount of water will supply one stream through 1½-inch hose using a 7/32-inch nozzle tip. Where the capacity is 600 gallons per hour ½-inch nozzle tips should be provided. This supply would not put out a fire which had gained headway but would handle small fires and protect exposures. At least 150 feet of 1½-inch hose should be available on the farm for fire fighting.

A Real F



SIMPLICITY OF PUMP CONTROLS has always been a feature of Mack fire apparatus. Note the compact and efficient arrangement on the Mack Type 19. All gages and levers are conveniently accessible for the operator.

NEW HOOD AND RADIATOR DESIGN enhances the distinctive and impressive appearance of the new Mack Type 1[illegible] Streamlined in design and efficiency, too



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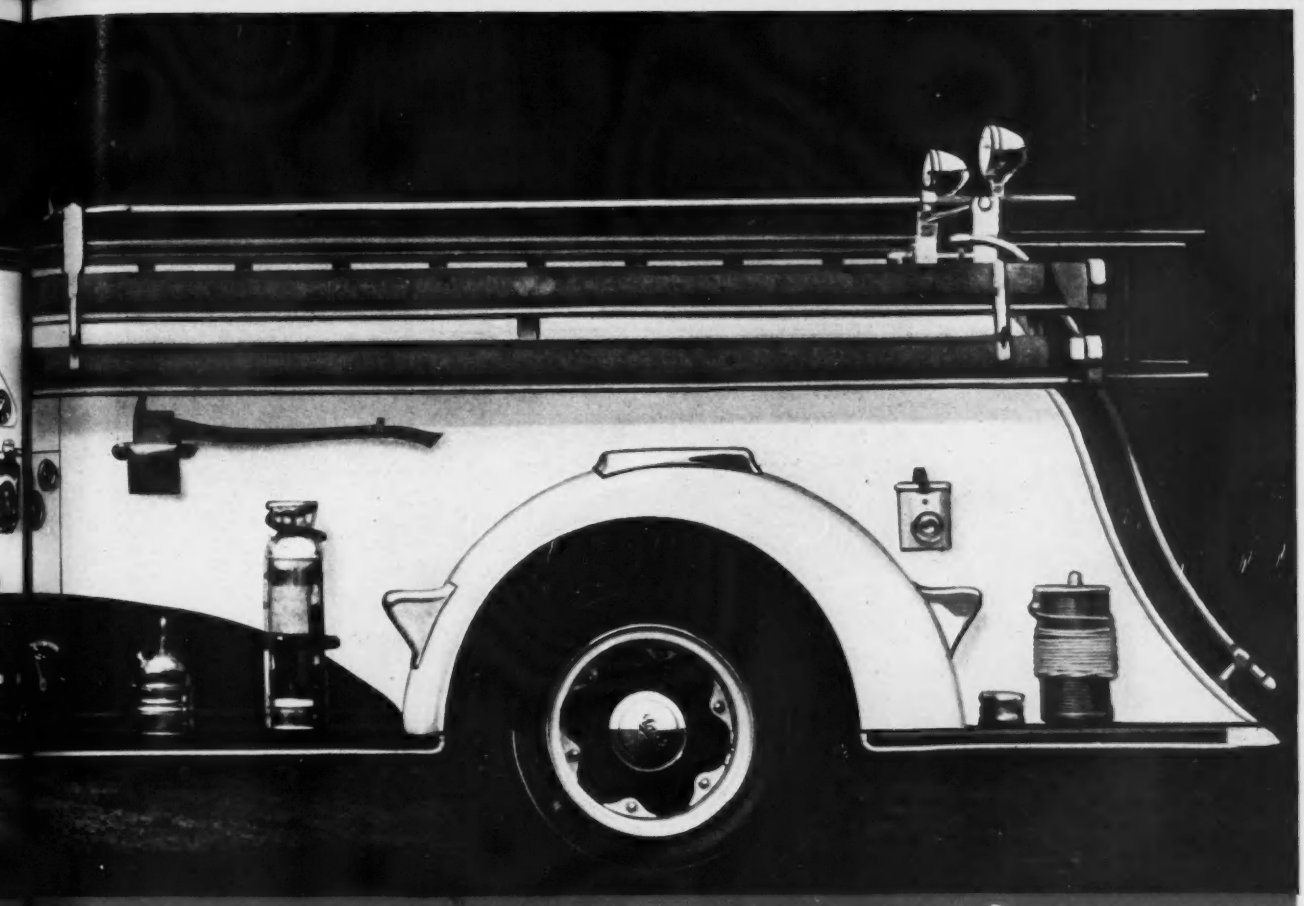


Fire Fighter

FOR 27 years the development of every Mack fire apparatus has been a process of constant improvement. Now—out of Mack's long experience, vast resources and unrivalled engineering facilities comes a new and improved version of the famous Type 19, 1000-gallon pumper.

It's Mack-built throughout to rigid standards of high quality. A new and more powerful engine provides ample reserve for the toughest grades or most grueling continuous pumping service.

Fire chiefs have long praised the mechanical excellence of the Type 19. Today with its modern streamlined styling it shares the acclaim won by other Mack pumpers as "the best looking fire apparatus ever built."

Before you replace present equipment, investigate the modern line of Mack apparatus. You'll get a new sense of pride seeing your city's name on one of these streamlined beauties. Greater security, too, because Mack-built means unmatched stamina, dependability and efficiency. Remember:—MACK HAS THE FACILITIES TO BUILD THE FINEST IN FIRE APPARATUS—AND DOES!

NEW MACK 1000-GALLON TRIPLE COMBINATION PUMPING ENGINE

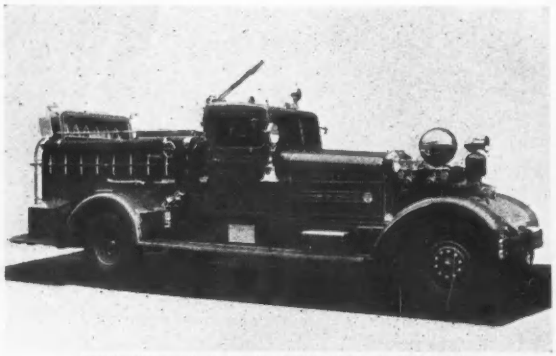
MACK TRUCKS, INC. • FIRE ENGINE DIVISION • NEW YORK, N. Y.

Modern Pumpers With Cabs

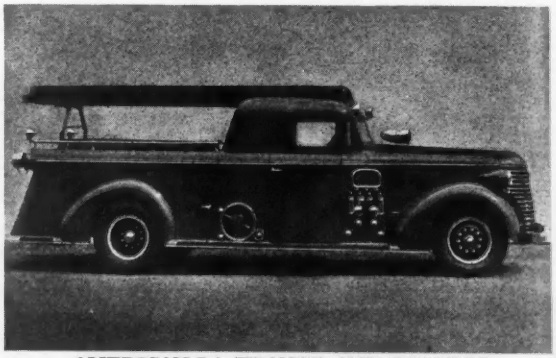
Drivers of These Pumpers No Longer Have to Brave Snow, Sleet or Rain When Responding to Alarms—Fire Appliances Remain Accessible

IT HAS long been recognized that firemen have been needlessly incapacitated by exposure to bitter weather when responding to and returning from fires. While the old time fireman was expected to take whatever punishment the weather man offered when responding to alarms, modern fire departments are giving attention to keeping their men "in the pink" until they reach the actual battle with the flames.

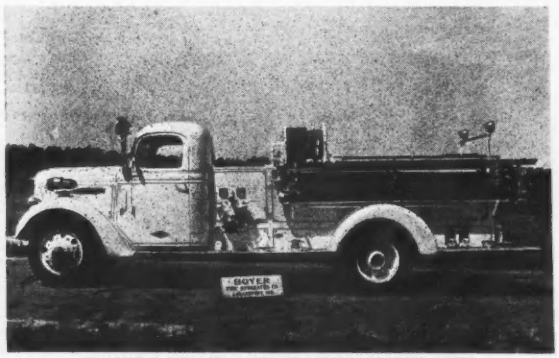
Some progressive fire departments are already experimenting with completely enclosed pumpers. Other departments which also wish to provide protection for their men are waiting to be shown which types of enclosed bodies offer the greatest advantages. Such departments frequently buy pumpers having enclosed driver's cabs. The cabs seat three or more men inside and break the wind for men on the back step. Yet they leave the hose body accessible.



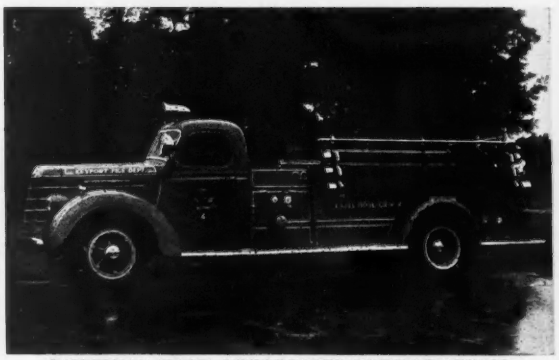
AHRENS-FOX FIRE ENGINE COMPANY,
Cincinnati, Ohio



AMERICAN-LA FRANCE AND FOAMITE INDUSTRIES, INC., Elmira, N. Y.



BOYER FIRE APPARATUS COMPANY,
Logansport, Indiana



BUFFALO FIRE APPLIANCE CORPORATION,
Buffalo, New York

W. S. DARLEY & COMPANY,
2810 Washington Boulevard, Chicago, Illinois

GENERAL FIRE TRUCK CORPORATION,
2200 E. Jefferson Avenue, Detroit, Michigan

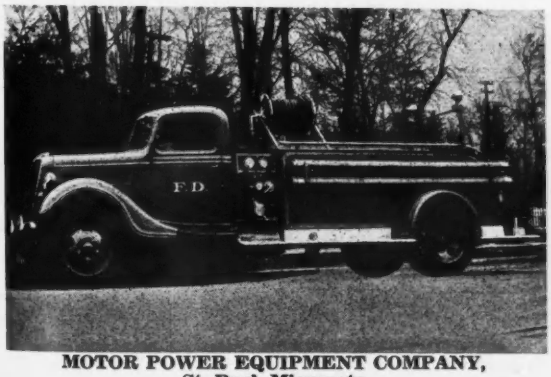
This display of selected illustrations of pumping equipment with enclosed cabs was chosen from among those of manu[illegible]ost of

HOWE FIRE APPARATUS COMPANY,
Anderson, Indiana

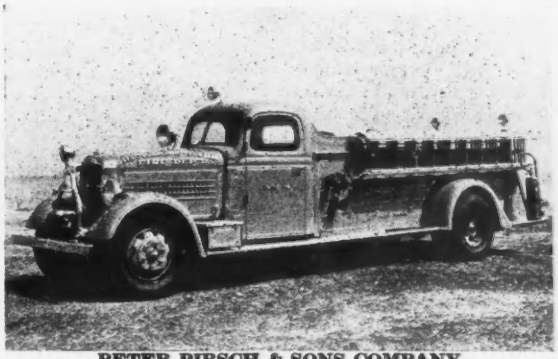
INTERNATIONAL HARVESTER COMPANY,
606 South Michigan Avenue, Chicago, Illinois

MACK-INTERNATIONAL MOTOR TRUCK CORP.,
34th St. and 48th Ave., Long Island City, N. Y.

MAXIM MOTOR COMPANY,
Middleboro, Massachusetts

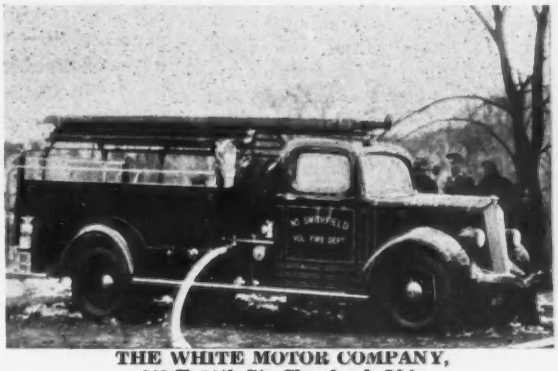


MOTOR POWER EQUIPMENT COMPANY,
St. Paul, Minnesota



PETER PIRSCH & SONS COMPANY,
Kenosha, Wisconsin

SEAGRAVE CORPORATION,
Columbus, Ohio



THE WHITE MOTOR COMPANY,
842 E. 79th St., Cleveland, Ohio

manu[illegible]ost of which furnish a complete line of pumpers. **Please mention VOLUNTEER FIREMEN when writing them.**

Making Use of a Divided Hose Body

Many Departments Report That Carrying Hose in Two Compartments Gives More Flexibility of Operation

THERE are a number of important advantages gained by having the hose body on a piece of fire apparatus divided into two compartments. For example, where the two sides of a divided hose body are loaded to lay hose in opposite directions it is possible to lay lines either to or from a fire without the use of reverse or double couplings. In addition, a divided body also makes it possible to lay two lines at once.

Many volunteer fire departments do not use the divided body for their 2½-inch hose because in suburban and rural areas a single long line is the hose layout most frequently used. Even so, in most instances where a long line is needed a divided hose body would make the job easier. It is always a simple matter to join the hose from two sides of a divided body. As a matter of fact, 500 to 600 feet of hose is generally carried in each compartment of a divided hose body.

Many departments recognize the advantages of loading hose so that it can be laid from the fire to the hydrant. With a divided hose body it is possible to load hose on one side of the truck for the fire to hydrant layout and the other side for the hydrant to fire layout. One side is loaded to lead off with the male coupling and the other side leads off with a female coupling. Various evolutions using both sides of the divided body give a great flexibility of operation.

EVEN the hydrant to fire layout may be made much easier by use of the divided hose body. In laying a hydrant line to a fire, the female coupling is connected to the hydrant and run to the front of the fire. When the apparatus stops the line is broken. There is no need of pulling out hose into the street because the hose from the other side of the truck, leading off with a male coupling and with nozzle attached, is run directly to the fire straightaway. When the nozzle is at the fire and enough hose has been run, the driver simply connects the hose from the two sides of the hose body and the line is charged.

Some departments using the above evolution make a practice of placing a hose clamp on the hydrant line as soon as the line is broken at the rear of the apparatus. When this is done the hydrant man immediately turns on the water and follows up the line to the fire.

Acknowledgement is made of helpful suggestions in the following article made by Battalion Chief Robert B. Rogers, Seattle Fire Department; Assistant Chief Henry Haddock, Drillmaster, Lynn, Massachusetts; and Professor H. R. Brayton, Director, and Chief Frank Williams, Instructor, Firemen's Training School, College Station, Texas.

This saves manpower and makes water available as soon as the nozzle is in position and the two parts of the line are connected.

When a divided hose body is loaded to lay both ways it is also possible to place the pumper in the line nearer to the fire when desirable instead of at the hydrant. Where a department is equipped with only one piece of apparatus the advantages of having the pumper near the fire should be obvious. For example it is not necessary to go long distances to get needed tools from the apparatus. The procedure is as follows:

The female coupling is connected to the hydrant and the line is laid by driving the apparatus to the fire. The line is then broken and connected to the intake of the pumper by means of the necessary suction connections and the line is charged to the pumper. Hose from the other side of the body, with nozzle already attached to the male coupling, is run to the fire. When the nozzle is in position at the fire and sufficient hose has been removed, the female end is connected to a pumper discharge connection and the line is charged.

HOWEVER, it should be remembered that with the above evolution the hydrant line supplying the pumper is nothing more than a long 2½-inch soft suction. The pumper cannot give more water than the supply line can readily furnish. With a 250-gallon fire stream discharging through a 1⅛-inch nozzle tip and with the pumper supplied by a single 250-foot hydrant line, at least 50 pounds flow pressure at the hydrant is needed. This is because the friction loss in the supply line would amount to about 15 pounds per 100 feet of hose. Where there is any doubt as to the ability of one 2½-inch line to supply the pumper, a second line should be run from the hydrant. This would greatly reduce the friction loss. Where 3-inch hose is available it is very useful in this type of layout to reduce the friction loss.

In addition to the above, a divided hose body is of special value at a big fire. A line can be laid hydrant to fire from one side of the hose body when pulling in to the fire. A second line can then be laid fire to hydrant from the other side of the apparatus and the pumper placed in operation at the hydrant. If the hydrant has been properly gated the first line need not be shut down when the pumper returns to the hydrant.

BESIDES fire fighting operations, the divided hose body is more convenient than a single compartment when changing hose. With the single compartment type of body, containing the usual 1000 to 1200 feet of hose, the lower part of the load is seldom used at a fire. The result is that when the apparatus returns to quarters and the men are wet and tired, fresh hose is loaded to replace the wet hose but the complete load may not be removed and changed. Most members of volunteer fire companies will admit that they do not get their hose changed as often as desirable because of the time and labor involved. When there is a divided hose body the loading job is less of a task. When more convenient, only one compartment need be changed at one time. For example, after a line has been laid fire to hydrant, the side leading off with the male coupling could be changed. If a line has been used hydrant to fire the side leading off with the female coupling could be changed.

It is not expected that the hose load described here will be adopted for every situation but it is being widely used and by trying out such evolutions with varying lengths of line and nozzle sizes, fire departments can make their drill periods more interesting and will see just what they can expect from various layouts.

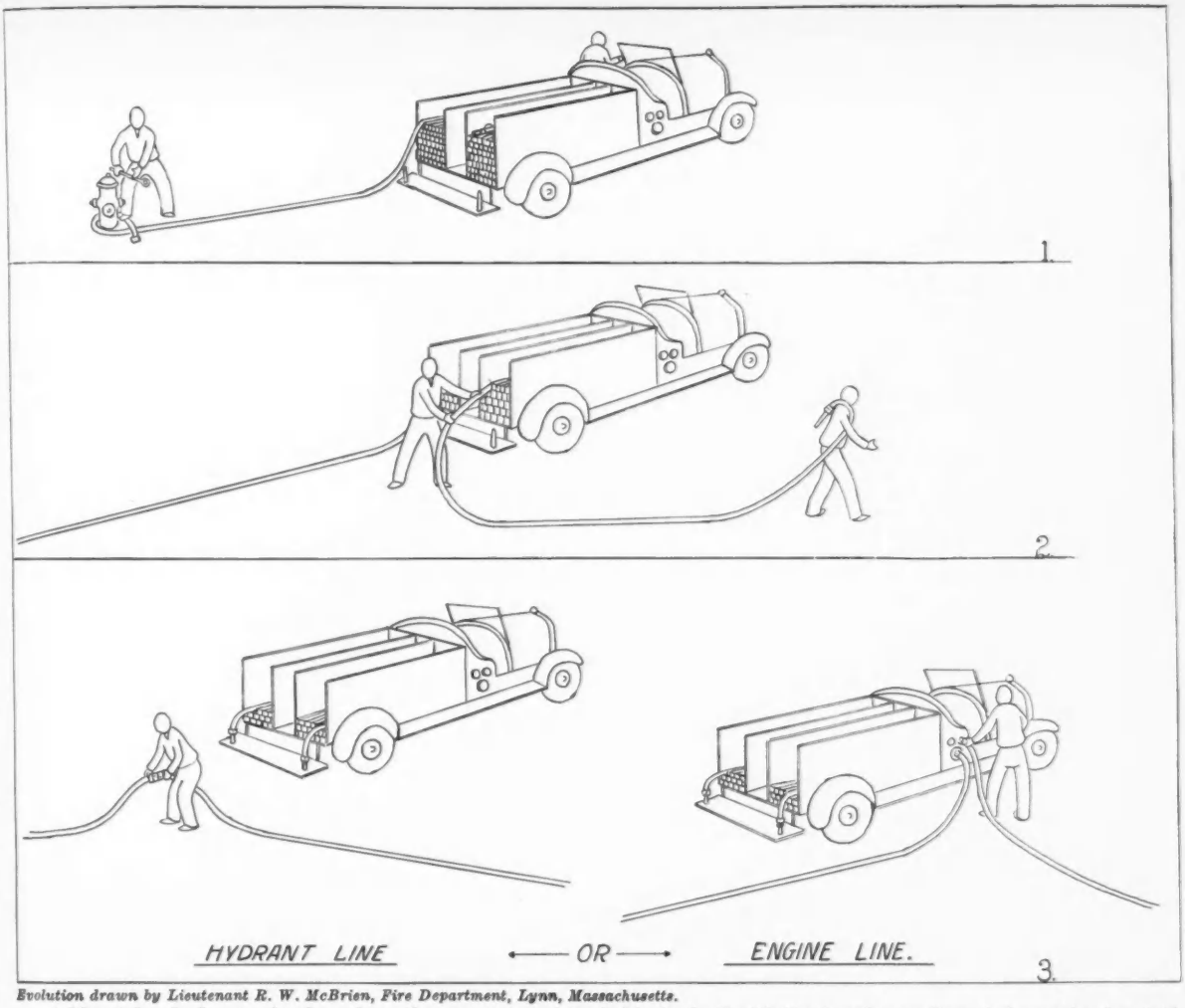
A Problem Question
FOR AUGUST

Suggested for discussion at company and department meetings this month

81

What key feature will fire departments stress in the Fire Prevention Week Campaign this year?

Watch for the answer in the next issue of VOLUNTEER FIREMEN. The answer to the problem question for July will be found on page 3.



Evolution drawn by Lieutenant R. W. McBrien, Fire Department, Lynn, Massachusetts.

1. Man takes hydrant using hose from the compartment loaded to lead off with the female coupling. 2. Apparatus has laid line to front of fire. Hose from opposite compartment, loaded to lead off with a male coupling and with nozzle attached, is stretched straightaway to fire. No hose need be dumped in street. 3. When the nozzle is in position the two sections of the line are connected together as shown at the left. At the right the hydrant line is shown supplying the pumper which is located in front of the fire.

Goats and Fire Prevention

By Strafford Wentworth

ON A recent night, a famous radio news commentator spread some idle gossip about a goat. The goat's name, not too strangely, was Billy. Billy found some gasoline, about a pint of it, evaporating in a dish. He sniffed it, found the vaporous aroma rather pleasing, then lapped it up.

Billy was free to wander at will. As a result he had grown to be a free and easy, Devil-may-care, sort of goat; but like Kipling's "Elephant's Child" he was essentially curious.

The episode with the gasoline being over, so he thought, he went for a stroll. Shortly he came across a burning match. Full of intellectual curiosity he approached it with a flammable bleat. There was an explosive mixture in him. Like many a home dry-cleaner, Billy was noisily disrupted into fragments.

Well, we don't believe it. There are idiots in every race, who are careless with fire, but we don't believe it is so of goats. As a matter of fact, we know of goats who are active in fire prevention. Yes, sir, goats that spend their time preventing fires and seem to enjoy it.

In Moline, Illinois, there's a big lumber yard, twenty-seven acres of it, attached to a wagon works. The boss of the plant knows that lumber makes swell fires. He doesn't want *his* lumber to make one, so his lumber yard is kept clean. Once he hired several men to keep out of it those consistent fire spreaders: rubbish, long grass, and weeds. But the men, not realizing the importance of their position, got bored with the job. They just couldn't seem to keep their minds on their work. When the boss found them sleeping in a luxurious growth of rag-weed, he fired them.

And then what did he do? The lumber had still to be watched. Did he hire more men? He did not! Men who don't know the importance of fire prevention? Not he! He bought thirty big Angora Goats and turned them loose on his property. No fire-breeding growths remain where the goats are allowed to roam. They eat it up. There were never slicker housekeepers.

NEW CATALOGUES

This department is for the convenience of readers who wish to be advised of new products or services in the fire field. When writing for catalogues please mention VOLUNTEER FIREMEN.

American-LaFrance and Foamite Industries, Inc., Elmira, N. Y. Announcement of a clothing rail for fire apparatus, designed to carry fire clothing of volunteer firemen.

Federal Electric Co., 8717 South State St., Chicago, Ill. Bulletin No. 55. Details of Federal sirens.

The Fyr-Fyter Co., Dayton, Ohio. Four-page illustrated leaflet, describing 5-gallon farm fire extinguisher (new shape hand pump type).

Gamewell Co., Newton Upper Falls, Mass. Illustrated bulletin entitled, "Delayed Alarms", showing serious fires which may result from delays in sending alarms.

Mine Safety Appliances Co., Braddock, Thomas and Meade Sts., Pittsburgh, Pa. Bulletin describing M-S-A firemen's helmets.

D. B. Smith & Co., 416 Main St., Utica, N. Y. Catalogue describing Indian Fire Pumps.

Walter Kiddie & Company, 140 Cedar St., New York City. Four-page, 2-color bulletin, "Instant Death to Any Fire", describing the improved Lux Fire Extinguishers.

Membership Plan

VOLUNTEER FIREMEN'S SECTION
NATIONAL FIRE PROTECTION ASSOCIATION

INDIVIDUAL membership in the National Fire Protection Association costs $10 per year. The membership plan for the Volunteer Firemen's Section is designed to give each fire company the advantages of N.F.P.A. membership. The fire company, as a member, receives at its headquarters a complete set of all regular N.F.P.A. literature, including the *Quarterly* magazine, as issued. In addition, as a special service to the Volunteer Firemen's Section, each fire company holding N.F.P.A. membership is entitled to have copies of the magazine VOLUNTEER FIREMEN sent to the home addresses of 20 firemen each month. If more than 20 firemen want to receive the magazine, an additional 50 cents should be sent in with the membership fee for each fireman in excess of 20 enrolled.

Because of the large amount of material mailed to members, not less than $10 can be accepted from any company.

Bring Home $10.00 Easy Money

Pyrene Prize Letter Contest Pays for Stories of Good Work Done by Firemen With Extinguishers

THE first prize letter this month is of particular interest. While firemen ordinarily think of using foam type extinguishers on flammable liquid fires rather than ordinary building fires, this occurrence well illustrates the superiority of an approved fire extinguisher of any type over the old-fashioned bucket brigade.

The widespread usefulness of approved fire extinguishers is well shown by the Pyrene Prize Letter Contest. You may know of a case where an extinguisher saved a life or made a good stop; just tell the facts your own way. Having won a previous prize does not bar you from making another entry. The contest is sponsored jointly by the Pyrene Manufacturing Company of Newark, N. J., and VOLUNTEER FIREMEN.

FIRST PRIZE — $10.00

WALTER J. GROSS, *Chief*,

Fire Department, Bridgewater, S. D.

One Did the Business!

"One hot day this summer our fire department received a call from a farm home five miles from town. We have a ruling that prevents us from taking any of our fire trucks more than two miles from town. As we wanted to do what we could to help, we took three 2½-gallon foam extinguishers from our chemical truck and left for the fire. As we neared the scene we could see smoke coming from all sides of the house beneath the roof. There were a number of men in a bucket brigade but the fire was getting worse. We took the foam extinguishers to the roof and emptied one of them. This one did the business. The insurance company was so well pleased with the results after seeing the start the fire had, that they sent us a check as thanks for the good work."

SECOND PRIZE — $3.00

A. H. HALL, JR.

Fire Department, Brownsville, Tenn.

Truck Loaded with Cotton

"Some time ago a customer came into the gasoline station where I work driving an old truck with the exhaust pipe loose at the manifold. Just as he turned off the ignition key the motor back fired and fire spread all over the motor which was covered with grease and lint. I was so excited, it took me a second to think but I reached inside the door of the station where I had a one-quart carbon tetrachloride extinguisher. The extinguisher soon saved the truck which was loaded with six bales of ginned cotton and also saved the gasoline station."

THIRD PRIZE — $2.00

J. W. MCLEOD, *Captain*

Fire Department, Carthage, N. C.

No Water Available!

"Some months ago as I was driving a tank truck I saw an automobile approaching and noticed a great cloud of smoke trailing it. As I approached I slowed my truck and came to a stop in time to signal the driver that his automobile was on fire. He ran by a few yards before stopping. As we were on a stretch of highway where there was no water, I came off the tank truck with a a one-quart carbon tetrachloride extinguisher. I ran to the automobile and extinguished the blaze thus saving the salesman's automobile and a valuable load of samples. The fire was caused by a shorted battery cable. The salesman was profuse in his thanks for the service of the extinguisher and offered to pay for the service."

CONTEST RULES

1. Contestants in the Pyrene Prize Letter Contest must be members of their local fire department.

2. Letters are to describe actual experiences where an approved fire extinguisher of any make has saved lives or property.

3. Trade names may be used but will be deleted in publication. Publishers reserve the right to edit winning letters to permit publication.

4. Each contestant automatically vouches for the truth of the facts presented from his own or others' experience.

5. Only one letter may be submitted each month.

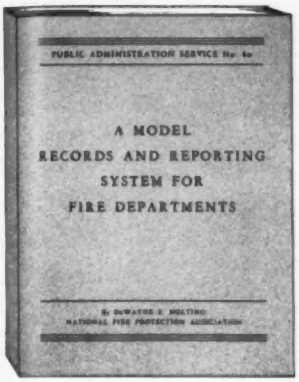
6. Letters must be legibly written in ink or typewritten on white paper, one side only. Preference will be given to letters not over 250 words in length.

7. Letters received after the 8th of the month will be judged in following month's competition.

8. Monthly prizes in cash will be: 1st, $10.00; 2nd, $3.00; and 3rd, $2.00.

9. Address contest letters to Pyrene Prize Letter Contest, National Fire Protection Association, 60 Batterymarch St., Boston, Mass.

A Model Records and Reporting System for Fire Departments



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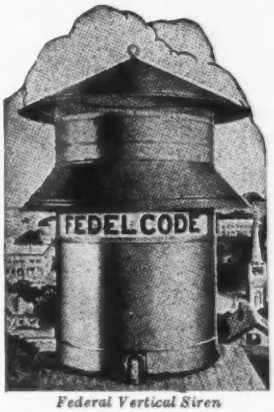

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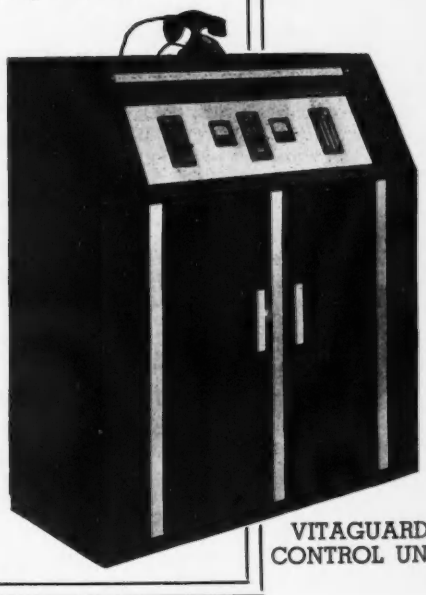

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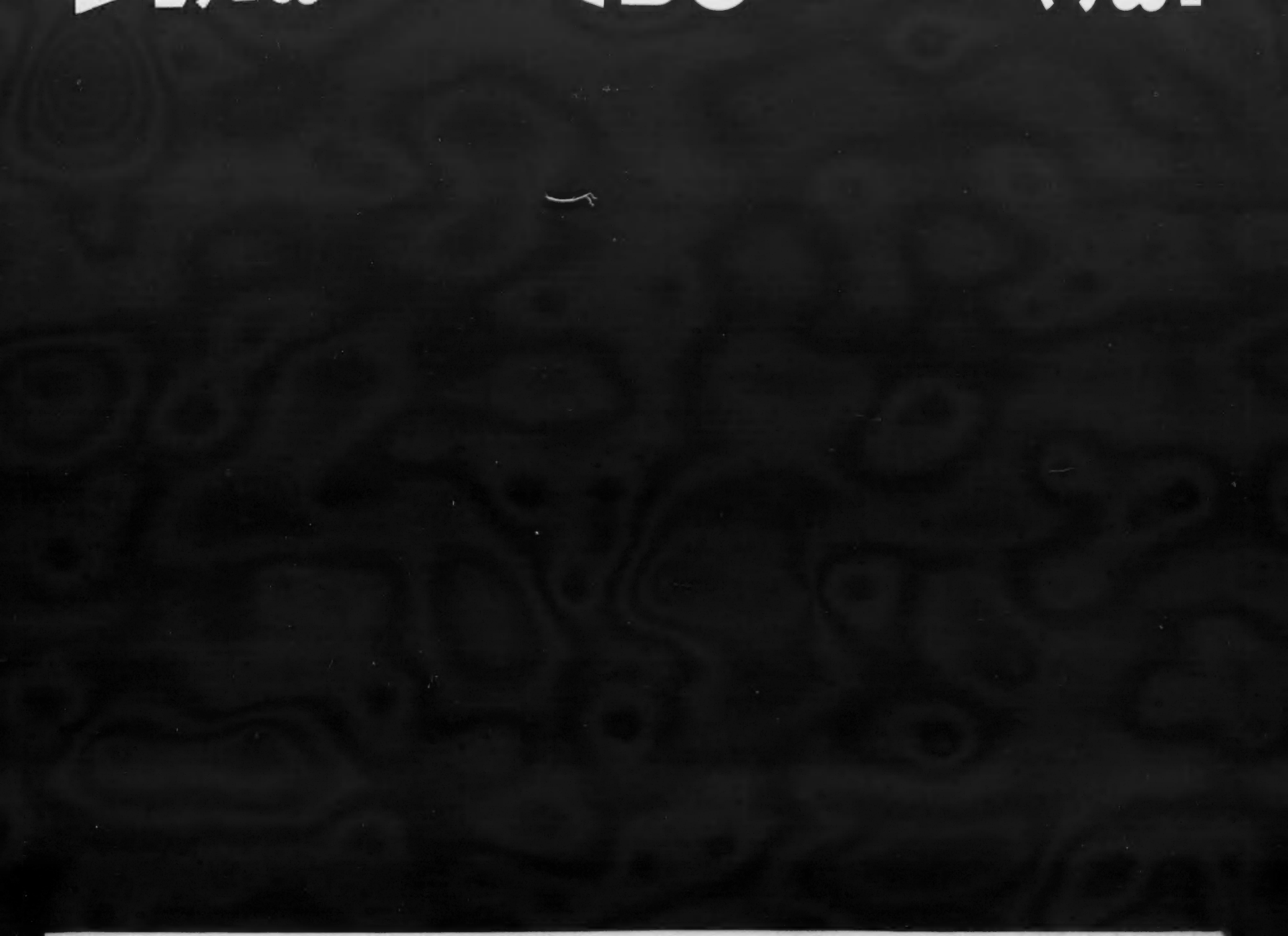
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